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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/688,964

10/21/2003

Soo-Hyun Cho

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3908

21171

7590

11/22/2005

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EXAMINER

VO, ANH T N

ART UNIT

PAPER NUMBER

2861

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/688,964	<b>Applicant(s)</b> CHO ET AL.	
	<b>Examiner</b> Anh T.N. Vo	<b>Art Unit</b> 2861	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**NON-FINAL REJECTION**

The rejection over Lee et al. (US Pat. 6,739, 711) in view of Tajima et al. (US Pat. 6,467,890) and Koitabashi et al. (US Pat. 5,216,450) is withdrawn in view of the arguments presented in the amendment.

The new prior art necessitated a new ground of rejection is below:

***CLAIM REJECTIONS***

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior arts are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-14 are rejected under 35 USC 103 (a) as being unpatentable over Kobayashi et al (6,238,042) in view of Shinada (US 6,899,417) and further in view of Oda et al (US 5,52,816).

Kobayashi disclose in Figure 1a an ink cartridge comprising:

- an air passage (414);
- a foam chamber (411) generating a negative pressure, and having foam (420) contained inside, an ink head (not shown) and a filter (425);
- an ink chamber (412) storing ink, formed at one side of the foam chamber (411) and separated from the foam chamber by a partition (410) having an opening (419) to provide a connection to the foam chamber (411); and

- a cartridge cover (16) having an ink injection port (415) formed thereon and covering a top of the ink chamber (412) and the foam chamber (411);

However, Kobayashi et al does not disclose that the foam chamber includes a lower part which is partially inclined and the foam is formed to be larger than an inner shape of the foam chamber, except shapes of the ink filter and the ink head, so that the foam around the ink filter is more compressed than the foam around the opening.

Nevertheless, Shinada suggests in Figure 25 using a foam (96') being larger than an inner shape of a foam chamber to provide an optimum negative pressure for rejected ink.

Oda et al suggests in Figure 1 an ink tank (T) having a lower part which is partially inclined between the left wall and the bottom (21) for minimizing the collection of residual ink.

It would have been obvious to a person having skill in the art at the time the invention was made to form the foam of Kobayashi et al larger than the foam chamber as suggested by Shinada for the purpose of providing an optimum negative pressure for the rejected ink and forming an incline lower part as suggested by Oda et al in the foam chamber of Kobayashi et al for the purpose of minimizing the collection of residual ink that would reduce wasting ink.

With regard to claims 2, 4, 9 and 11, the foam chamber of Oda et al has an incline as shown in Figure 1 so that the foam would have an incline.

With regard to claims 3 and 10, the modified foam chamber in view of Oda et al would have an incline from the opening (419) to the filter (425).

With regard to claims 5-6 and 12-13, the modified foam of Oda et al in view of Shinada and Oda et al would have a first section being compressed near the filter (425), a second section being less compressed than the first section along the incline and a third section being less compressed than the second section at the bottom wall so that the injected ink concentrates in the first section of foam and to lesser extent in the second section of foam.

With regard to claims 7 and 14, wherein external air forms air bubbles in the foam (420)

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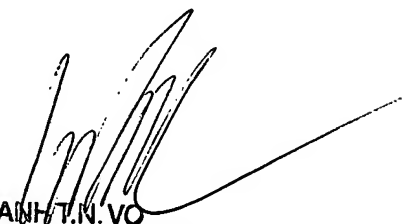
which move toward the lower part of the foam chamber, rise up to the opening (414), and into the ink chamber (412), wherein as the air bubbles move through the compressed foam (420), the air bubbles decrease in size since the modified ink cartridge of Oda et al has the same structure as the claimed cartridge.

***Response to Applicant's Arguments***

The applicant's arguments with respect to the prior art rejection have been carefully considered and have been traversed in view of the new grounds of rejection over Kobayashi et al.; Shinada et al. and Oda et al. references.

***CONCLUSION***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo whose telephone number is (571) 272-2262. The examiner can normally be reached on Tuesday to Friday from 9:00 A.M.to 7:0 P.M.. The fax number of this Group 2861 is (571) 273-8300.

  
ANH T.N. VO  
PRIMARY EXAMINER  
November 20, 2005